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(19) (CA) **APPLICATION FOR CANADIAN PATENT** (12)

(54) Petroleum Jelly with Alpha-Hydroxy Carboxylic Acids

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Notice: This application is as filed and may therefore contain an incomplete specification.



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ABSTRACT OF THE DISCLOSURE

A cosmetic composition is provided that includes a C_2 - C_{22} α -hydroxy carboxylic acid or salt thereof dispersed within petroleum jelly with the aid of a phosphatide. Additional components may include a sterol and a C_{10} - C_{22} fatty acid. A method is also provided for treating skin to improve the functions of skin healing, moisturizing, anti-aging, anti-wrinkling and skin lightening by applying to the skin a composition of petroleum jelly with a small amount of a C_2 - C_{20} alpha-hydroxy carboxylic acid or salt thereof in an anhydrous or relatively low water system.

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**THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE
PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:**

1. A cosmetic composition comprising:
 - (i) from 50% to 98% by weight of petroleum jelly;
 - (ii) from 0.01 to 20% by weight of a C₂-C₂₀ α-hydroxy carboxylic acid or salt thereof; and
 - (iii) from 0.1 to 10% by weight of a phosphatide.
2. A cosmetic composition according to claim 1 further comprising from 0.1 to 20% by weight of a sterol.
3. A cosmetic composition according to claim 1 further comprising from 0.1 to 20% by weight of a C₁₀-C₂₂ fatty acid.
4. A cosmetic composition according to claim 1 further comprising from 0.8 to 10% by weight of water.
5. A cosmetic composition according to claim 1 wherein the phosphatide is lecithin.
6. A cosmetic composition according to claim 1 where the phosphatide is present from 0.5 to 8% by weight.
7. Use of a cosmetic composition comprising from 50 to 98% by weight of petroleum jelly, from 0.01 to 20% by weight of a C₂-C₂₀ alpha-hydroxycarboxylic acid or salt thereof, and from 0 to 15% by weight of water, for treating skin to improve a functional activity selected from skin

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healing, moisturizing, anti-aging, anti-wrinkling, skin lightening and combinations thereof.

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8. A cosmetic composition as claimed in claim 1 and substantially as described herein.

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1 **PETROLEUM JELLY WITH ALPHA-HYDROXY**
2 **CARBOXYLIC ACIDS**

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4 **BACKGROUND OF THE INVENTION**

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6 **Field of the Invention**

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8 The invention relates to cosmetic compositions whose major component is
9 petroleum jelly incorporating α -hydroxy carboxylic acids and salts thereof.

10
11 **The Related Art**

12
13 Petroleum jelly is one of the oldest skin treatment products still in commerce
14 today. For over 100 years, the Chesebrough Company and its successors have
15 sold the substance under the brand, Vaseline®. There is good reason for the
16 longevity of this product. Its occlusive and healing properties render this product
17 especially efficacious against dry and damaged skin.

18
19 Within recent years, α -hydroxy carboxylic acids have gained prominence as
20 one of the truly effective skin actives. Reports of these materials are found in U.S.
21 Patent 4,021,572, U.S. Patent 4,234,599, U.S. Patent 4,105,782 and U.S. Patent
22 4,105,783 listing Yu and Van Scott as inventors. Other properties of these
23 substances include their action against age spots, wrinkles and other signs of
24 aging. See U.S. Patent
25 5,091,171 (Yu et al.) and U.S. Patent 4,424,234 (Alderson et al.).

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27
28 Delivery of α -hydroxy carboxylic acids in a vehicle such as petroleum jelly
29 appears to present potential for even higher levels of effectiveness than previously

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1 found with aqueous cream and lotion vehicles. α -Hydroxy carboxylic acids and
2 their salts are unfortunately not readily soluble or dispersible in petroleum jelly.
3 Systems are required which can aid dispersion of these hydrophilic substances into
4 petroleum jelly.

5
6 Accordingly, it is an object of the present invention to provide cosmetic
7 compositions having α -hydroxy carboxylic acids or salts thereof uniformly dispersed
8 or solubilized within petroleum jelly.

9
10 Another object of the present invention is to provide cosmetic compositions
11 with skin healing, moisturizing, anti-aging, anti-wrinkling, skin lightening and other
12 improved functional activities.

13
14 These and other objects of the present invention will become more readily
15 apparent from consideration of the following summary and detailed description.

16
17 **SUMMARY OF THE INVENTION**

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19 A cosmetic composition is provided that includes:

- 20 (i) from 50% to 98% by weight of petroleum jelly;
21 (ii) from 0.01 to 20% by weight of a C_2 - C_{20} α -hydroxy carboxylic acid or
22 salt thereof; and
23 (iii) from 0.1 to 10% by weight of a phosphatide.

24
25
26
27 Also provided is a method for treating skin to improve a functional activity
28 such as that selected from skin healing, moisturizing, anti-aging, anti-wrinkling, skin
29 lightening and combinations thereof, by applying to the skin a cosmetic composition
30 comprising from 50 to 98% by weight of petroleum jelly, from 0.01 to 20% by

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1 weight of a C_2-C_{20} alpha-hydroxycarboxylic acid or salt thereof, and from 0 to 15%
2 by weight of water.

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DETAILED DESCRIPTION OF THE INVENTION

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Now it has been found that a cosmetic composition wherein petroleum jelly is the main component and vehicle can be formulated with the aid of a phosphatide to microdisperse therein a C_2-C_{22} α -hydroxy carboxylic acid or salt thereof. Enhanced dispersion can be achieved when the phosphatide is accompanied by other lipid components such as a fatty acid and a sterol. The lipid system prevents phase separation and maintains the cosmetic product in an extended state of stability.

Accordingly, a first essential element of the present invention is that of petroleum jelly. Amounts of this material may range from 50% to 98%, preferably from 60% to 95%, optimally from 75% to 90% by weight.

A second essential element of the present invention is that of a C_2-C_{22} α -hydroxy carboxylic acid or salt thereof. Illustrative of these substances are glycolic, lactic, malic, tartaric acids and mixtures thereof. Salts of these acids may be based upon cations such as alkalimetal, alkaline earth metal, ammonium, and C_2-C_{20} alkanolammonium cations. Amounts of the α -hydroxy carboxylic acid or salt may range from 0.1 to 20%, preferably from 0.5 to 10%, optimally from 1 to about 5% by weight.

A further essential element of the present invention is that of a phosphatide. Most preferred is lecithin. Amounts of this material may range from 0.1 to 10%, preferably from 0.5 to 8%, optimally from 2 to 5% by weight.

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1 Additional lipids may be included in compositions of the present invention.
2 Particularly effective are C₁₀-C₂₂ fatty acids. Suitable fatty acids include lauryl,
3 myristyl, cetyl, palmityl, oleoyl, stearic, isostearic and behenyl acids. Amounts of
4 this substance may range from 0.1 to 20%, preferably from 0.5 to 10%, optimally
5 from 1% to 6% by weight.

6
7 Other particularly effective lipids are the sterols. Illustrative sterols are those
8 selected from soy sterol, ergosterol, stigmasterol, cholesterol, sitosterol and
9 combinations thereof. Amounts of this material may range from 0.1 to 20%,
10 preferably from 0.5 to 10%, optimally from 1 to 5% by weight.

11
12 Although compositions according to the present invention may be
13 anhydrous, they usually will contain water in amounts from 0 to 15%, preferably
14 from 0.8 to 10%, optimally from 1 to 8%, especially from 4 to 6% by weight.

15
16 Beyond the aforementioned components, the present invention may also
17 include other ingredients typically found in cosmetic formulations. Among these
18 ingredients are emollients, humectants, thickeners, preservatives, fragrances and
19 vitamins.

20
21 Emollients may be selected from materials such as C₈-C₃₀ fatty alcohols,
22 triglyceride oils, silicone oils and a variety of esters. Amounts of the emollients
23 may range from 0.5 to 20%, preferably from 1 to 10%, optimally from 2 to 8% by
24 weight. Illustrative emollients are stearyl alcohol, cetyl alcohol, isopropyl palmitate,
25 isopropyl myristate, lanolin, sunflower oil, evening primrose oil, soybean oil,
26 dimethicone, cyclomethicone, dimethylcone copolyol and dimethyl polysiloxane.

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28 Thickeners may be selected from such materials as cross-linked
29 polyacrylates available under the Carbopol® trademark, celluloses such as sodium
30 carboxymethylcellulose, hydroxyethylcellulose, hydroxypropylcellulose and methyl

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1 cellulose, and natural gums such as xanthan, carrageenan and pectin gums. Most
2 preferred are the crosslinked polyacrylates, especially Carbopol 934® available from
3 the B.F. Goodrich Company.

4

5 Powdered thickeners may be such materials as chalk, talc, Fullers earth,
6 kaolin, starch, colloidal silica, smectites clays, montmorillonite clays and chemically
7 modified magnesium aluminum silicates.

8

9 Among the preservatives useful are methyl paraben, propyl paraben, EDTA
10 salts, potassium sorbate, potassium benzoate and DMDM hydantoin.

11

12 Cosmetic compositions of the present invention may also contain vitamin
13 ingredients such as Vitamin A palmitate, Vitamin E acetate, Niacin, Vitamin C and
14 combinations thereof.

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16 Emulsifiers may also be useful for purposes of the present invention. These
17 emulsifiers may be alkoxylated C₈-C₃₀ fatty acids and fatty alcohols. Examples of
18 such materials are polyoxyethylene (4) lauryl ether, polyoxyethylene (8)
19 monostearate, polyoxyethylene (10) cetyl ether and polyoxyethylene (20) stearyl
20 ether. A particularly preferred emulsifier is Myreth-3-Myristate (CTFA name)
21 available commercially as Cetiol 1414-E®.

22

23 The following examples will more fully illustrate select embodiments of this
24 invention. All parts, percentages and proportions referred to herein and in the
25 appended claims are by weight of the total composition unless otherwise stated.

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27 EXAMPLE 1

28

29 A series of experiments were conducted to evaluate compatibility of
30 potassium lactate in petroleum jelly. Table I outlines formulations and phase

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1 stability results.

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TABLE I

COMPONENT	FORMULA (WT. %)											
	1	2	3	4	5	6	7	8	9	10	11	12
Petroleum Jelly	89.75	89.75	89.75	89.75	89.75	89.75	81.75	83.75	83.75	83.75	85.75	85.75
Potassium Lactate (66% Aqueous Solution)	8.25	8.25	8.25	0.25	8.25	8.25	8.25	8.25	8.25	8.25	8.25	8.25
Lecithin	2.00	—	—	—	—	—	4.00	4.00	4.00	4.00	—	4.00
Soy Sterol	—	2.00	—	—	—	—	4.00	4.00	—	4.00	4.00	2.00
Stearic Acid	—	2.00	—	2.00	—	—	2.00	—	4.00	—	2.00	—
Sunflower Seed Oil	—	2.00	2.00	—	—	—	—	—	—	—	—	—
Cholesterol	—	2.00	—	—	2.00	—	—	—	—	—	—	—
Sorbitan Monoleate	—	2.00	—	—	—	2.00	—	—	—	—	—	—
PHASE STABILITY	unstable	separation	unstable	unstable	unstable	unstable	stable	stable	stable	stable	unstable	unstable

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Based on the results in Table I, it appears that lecithin at levels of 4% provides stability to the potassium lactate in petroleum jelly.

EXAMPLE 2

The following formulas illustrate typical compositions according to the present invention.

TABLE II

COMPONENT	FORMULA (WT. %)					
	13	14	15	16	17	18
Petroleum Jelly	50	95	98	75	85	85
Ammonium Glycolate	10	—	0.01	20	5	1
Glycolic Acid	10	3	—	—	—	—
Alpha-Hydroxycaprylic Acid	1	—	—	—	—	—
Lecithin	5	2	0.10	3	4	10
Cholesterol	5	—	0.10	—	—	1
Polyoxyethylene (20) Stearyl Ether	2	—	1.79	2	2	2
Water	7	—	—	—	4	1

The foregoing description and Examples illustrate selected embodiments of the present invention. In light thereof, various modifications will be suggested to one skilled in the art, all of which are within the spirit and purview of this invention.